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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,870	08/27/2003	Bobby D. Hill	H054165.0002US0	6359
1200	7590	06/08/2005	EXAMINER	
AKIN, GUMP, STRAUSS, HAUER & FELD 1111 LOUISIANA STREET 44TH FLOOR HOUSTON, TX 77002			HUNNINGS, TRAVIS R	
			ART UNIT	PAPER NUMBER
			2632	

DATE MAILED: 06/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/649,870

Applicant(s)

HILL, BOBBY D.

Examiner

Travis R Hunnings

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2005.
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29-48 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 29-48 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 17 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____.
 4) ☐ Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) ☐ Notice of Informal Patent Application (PTO-152)
 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 35 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claimed "fail open valve" stated in claim 35 does not have sufficient support in the original disclosure filed 27 august 2003.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 43, 46 and 47 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Cavallero (US Patent 5,067,394).

Regarding claim 43, Cavallero discloses *Airborne Particle Exhaust System* that has the following claimed limitations:

The claimed at least one airborne element sensor, capable of detecting the presence of predetermined airborne elements, the at least one airborne element sensor having an output signal indicating the presence of the predetermined airborne element is met by the sensor (14) as seen in figure 1 detecting the presence of hazardous airborne particles (abstract, col3 12-30 and 37-39);

The claimed airborne element evacuation system comprising a conduit system coupled to an interior of the structure and coupled to an exhaust apparatus is met by the shared duct system of the airborne particle exhaust system and the vacuum unit used to draw the hazardous airborne particles out of the structure (abstract and col2 55-58);

The claimed at least one first valve and at least one second valve within the conduit system, the first valve being interposed between the interior of the structure and the second valve, the second valve being interposed between the first valve and the exhaust apparatus, wherein upon the output signal indicating the presence of the predetermined airborne element, the evacuation system activates the exhaust apparatus and the second valve causing the second valve to open and causing at least a portion of the airborne element to be removed from the structure via the conduit system is met by the vacuum inlet and the exhaust registers and when the sensor detects the presence of a hazardous airborne particle the exhaust registers are opened

and the vacuum system is started to extract the hazardous airborne particles out of the structure (abstract, col3 12-30 and 46-51).

Regarding claim 46, Cavallero disclose the following claimed limitations:

The claimed at least one airborne element sensor, capable of detecting the presence of predetermined airborne elements, the at least one airborne element sensor having an output signal indicating the presence of the predetermined airborne element is met by the sensor (14) as seen in figure 1 detecting the presence of hazardous airborne particles (abstract, col3 12-30 and 37-39);

The claimed airborne element evacuation system comprising a conduit system coupled to an interior of the structure and coupled to an exhaust apparatus is met by the shared duct system of the airborne particle exhaust system and the vacuum unit used to draw the hazardous airborne particles out of the structure (abstract and col2 55-58);

The claimed booster apparatus within the conduit system, the booster apparatus being interposed between the interior of the structure and the exhaust apparatus, wherein upon the output signal indicating the presence of the predetermined airborne element, the evacuation system actuates the exhaust apparatus causing the booster apparatus to activate causing at least a portion of the airborne element to be removed from the structure via the conduit system is met by the central vacuum unit that is activated when the sensor detects the presence of hazardous airborne particles and is used to remove the hazardous airborne particles from the interior of the structure (abstract and col3 12-30). See figure 2.

Regarding claim 47, Cavallero discloses the following claimed limitations:

The claimed at least one airborne element sensor, capable of detecting the presence of predetermined airborne elements, the at least one airborne element sensor having an output signal indicating the presence of the predetermined airborne element is met by the sensor (14) as seen in figure 1 detecting the presence of hazardous airborne particles (abstract, col3 12-30 and 37-39);

The claimed airborne element evacuation system comprising a conduit system coupled to an interior of the structure and coupled to an exhaust apparatus is met by the shared duct system of the airborne particle exhaust system and the vacuum unit used to draw the hazardous airborne particles out of the structure (abstract and col2 55-58);

The claimed filter apparatus interposed between a discharge of the exhaust apparatus and an ambient atmosphere exit means wherein upon the output signal indicating the presence of the predetermined airborne element, the evacuation system actuates the exhaust apparatus causing at least a portion of the airborne element to be removed from the structure via the conduit system and be filtered through the filter apparatus prior to exiting the structure and entering the atmosphere is met by the filter unit collecting the smoke or fumes extracted by the central vacuum unit before it is evacuated into the air (abstract, col3 12-30 and 64-68).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 29, 30, 34, 36-38 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cavallero in view of Landais (US Patent 6,384,724).

Regarding claims 29 and 30, Cavallero discloses the following claimed limitations:

The claimed airborne element sensor, capable of detecting the presence of a predetermined airborne element, the airborne element sensor having an output signal indicating the presence of the predetermined airborne element is met by the sensor (14) as seen in figure 1 detecting the presence of hazardous airborne particles (abstract, col3 12-30 and 37-39);

The claimed airborne element evacuation system in communication with the airborne element sensor and capable of receiving the output signal, the airborne element evacuation system comprising a conduit system coupled to an interior of the structure and coupled to an exhaust apparatus is met by the shared duct system of the airborne particle exhaust system and the vacuum unit used to draw the hazardous

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airborne particles out of the structure when the sensor detects the presence of hazardous airborne particles (abstract, col2 55-58 and col3 12-30);

The claimed evacuation system actuating the exhaust apparatus causing at least a portion of the airborne element to be removed from the structure via the conduit system is met by the central vacuum unit drawing the hazardous airborne particles through the shared duct system to be removed from the structure (col2 55-58 and col3 12-30).

However, Cavallero does not specifically disclose the claimed alert system in communication with the airborne element evacuation system, the alert system comprising visual, audible, and haptic interface system alerts, wherein upon the output signal indicating the presence of the predetermined airborne element, and the alert system actuates the visual, audible, and haptic interface system alerts. Landais discloses *Smoke Alarm* that teaches a remotely portable device that actuates an alert (LED or vibrating) when a central unit generates an alarm indicating the presence of smoke (col3 1-5 and col5 54-66). It would have been obvious for one of ordinary skill in the art to add an audible alert to the device as well in order to cover all the sensory indications possible so that the user would be better alerted to the danger. Modifying the device of Cavallero to include a remotely portable alert device to warn the user that smoke has been detected would help to save lives by notifying users of the presence of an emergency condition such as smoke or fire. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Cavallero according to the teachings of Landais to include an alert system

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in communication with the airborne element evacuation system, the alert system comprising visual, audible, and haptic interface system alerts, wherein upon the output signal indicating the presence of the predetermined airborne element, and the alert system actuates the visual, audible, and haptic interface system alerts.

Regarding claim 34, Cavallero and Landais disclose all of the claimed limitations.

The claimed first valve and second valve within the conduit system, the first valve being interposed between the interior of the structure and the second valve, the second valve being interposed between the first valve and the exhaust apparatus, wherein upon the output signal indicating the presence of the predetermined airborne element, the evacuation system actuates the second valve causing the second valve to open to allow at least a portion of the airborne element to be removed from the structure via the conduit system is met by the vacuum inlet and the exhaust registers and when the sensor detects the presence of a hazardous airborne particle the exhaust registers are opened and the vacuum system is started to extract the hazardous airborne particles out of the structure (abstract, col3 12-30 and 46-51).

Regarding claim 36, Cavallero and Landais disclose all of the claimed limitations.

The claimed booster apparatus within the conduit system, the booster apparatus being interposed between the interior of the structure and the exhaust apparatus, wherein upon the output signal indicating the presence of the predetermined airborne element, actuation of the exhaust apparatus causes the booster apparatus to activate assisting

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the exhaust apparatus in removing at least a portion of the airborne element from the structure via the conduit system is met by the central vacuum unit that is activated when the sensor detects the presence of hazardous airborne particles and is used to remove the hazardous airborne particles from the interior of the structure through the shared duct system (abstract, col2 55-58 and col3 12-30). See figure 2.

Regarding claim 37, Cavallero and Landais disclose all of the claimed limitations.

The claimed filter apparatus interposed between a discharge of the exhaust apparatus and an ambient atmosphere exit means wherein prior to entering the atmosphere, the airborne element is filtered through the filter apparatus is met by the filter unit collecting the smoke or fumes extracted by the central vacuum unit before it is evacuated into the air (abstract, col3 12-30 and 64-68).

Regarding claim 38, Cavallero and Landais disclose all of the claimed limitations.

The claimed airborne element sensor is a smoke detector is met by the sensor being of the type known in the art (e.g. a smoke detector) (col3 37-39).

Regarding claim 48, the claim is interpreted and rejected as claim 29 stated above.

7. Claims 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cavallero in view of Landais and further in view of Hartman et al. (Hartman; US Patent 6,380,852).

Regarding claim 31, Cavallero and Landais disclose all of the claimed limitations except for the claimed alert system further comprising a power receptacle interface having a plurality of programmable outlets, at least one outlet being configured to change states upon the output signal indicating the presence of the predetermined airborne element. Hartman discloses *Power Shut-Off That Operates In Response To Prespecified Remote Conditions* that teaches the use of an alerting system that comprises a power receptacle interface that can be set up to alter the state of a device connected to the power outlet interface upon receipt of a signal (abstract and col1 12-21). Adding a power outlet interface to the alert system of Cavallero and Landais would allow users to better recognize the alerts (audible, visual and haptic) when an emergency condition has arisen. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Cavallero and Landais according to the teachings of Hartman to modify the alert system to comprise a power receptacle interface having a plurality of programmable outlets, at least one outlet being configured to change states upon the output signal indicating the presence of the predetermined airborne element.

Regarding claim 32, Cavallero, Landais and Hartman disclose all of the claimed limitations. The claimed power receptacle interface including the visual and audible alerts is met by the LED (192) and speaker (193) as seen in Hartman figure 3. See rejection to claim 31 stated above.

Regarding claim 33, Cavallero, Landais and Hartman disclose all of the claimed limitations. The claimed power receptacle interface being portable is met by the device taking the form of an adapter that can be connected to any outlet receptacle (Hartman: col3 11-14). See rejection to claim 31 stated above.

8. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cavallero in view of Landais and further in view of Ramsey et al. (Ramsey; US Patent 5,992,532).

Regarding claim 35, Cavallero and Landais disclose all of the claimed limitations except for the claimed second valve being a fail open valve. Ramsey teaches *Wet Pipe Fire Protection System* that teaches a valve for protecting against fires that in the case that the valve fails it remains open so that potential fires can continue to be prevented (col6 58-65). Modifying the valve of Cavallero and Landais to remain open in the case of a valve failure would ensure that the device would continue to extract the hazardous airborne particles even if the valve failed. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by

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Cavallero and Landais according to the teachings of Ramsey to modify the second valve to be a fail open valve.

9. Claims 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cavallero in view of Landais and further in view of McKenzie (US Patent 5,855,510).

Regarding claims 39 and 40, Cavallero and Landais disclose all of the claimed limitations except for the claimed system further comprising a sprinkler system in communication with the smoke detector, wherein upon detection of smoke the sprinkler system is activated and wherein the sprinkler system is resettable. McKenzie discloses *System For Exhausting Smoke And Controlling Fires Within A Building* that teaches an exhaust system that also includes a sprinkler system to help abate the spread of fire (col2 29-32). It would have been obvious to one of ordinary skill in the art to activate the sprinkler system upon detection of fire/smoke in order to help prevent the spread of the fire and to make the sprinkler system resettable because a system that can never be reset after it is activated would be useless after the first false alarm or actual fire.

Adding a sprinkler system to the system of Cavallero and Landais that is activated when fire/smoke is detected would increase the ability of the system to stop the spread of fire and help reduce the damages caused by fire. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Cavallero and Landais according to the teachings of McKenzie to include a sprinkler

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system in communication with the smoke detector, wherein upon detection of smoke the sprinkler system is activated and wherein the sprinkler system is resettable.

10. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cavallero in view of Landais and further in view of Roby et al. (Roby; US Patent 5,691,703).

Regarding claim 41, Cavallero and Landais disclose all of the claimed limitations except for the claimed airborne element sensor being capable of detecting temperature, smoke, and carbon monoxide. Roby disclose *Multi-Signature Fire Detector* that teaches a sensor that can detect the presence of a plurality of emergency conditions such as smoke, temperature and carbon monoxide (col18 50-67). Modifying the sensor of Cavallero and Landais to be able to detect the presence of smoke, temperature and carbon monoxide would increase the usefulness of the product by being able to detect any number of conditions associated with fire. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Cavallero and Landais according to the teachings of Roby to have the sensor be capable of detecting temperature, smoke, and carbon monoxide.

11. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cavallero in view of Hartman.

Regarding claim 42, Cavallero discloses the following claimed limitations:

The claimed airborne element sensor, capable of detecting the presence of a predetermined airborne element, the airborne element sensor having an output signal indicating the presence of the predetermined airborne element is met by the sensor (14) as seen in figure 1 detecting the presence of hazardous airborne particles (abstract, col3 12-30 and 37-39);

The claimed airborne element evacuation system comprising a conduit system coupled to an interior of the structure and coupled to an exhaust apparatus is met by the shared duct system of the airborne particle exhaust system and the vacuum unit used to draw the hazardous airborne particles out of the structure (abstract and col2 55-58);

The claimed wherein upon the output signal indicating the presence of the predetermined airborne element, the evacuation system activates the exhaust apparatus causing at least a portion of the airborne element to be removed from the structure via the conduit system is met by the sensor detecting the presence of a hazardous airborne particle the exhaust registers are opened and the vacuum system is started to extract the hazardous airborne particles out of the structure (abstract, col3 12-30 and 46-51).

However, Cavallero does not specifically disclose the claimed power receptacle interface having at least one outlet that can be configured to change states. Hartman teaches the use of an alerting system that comprises a power receptacle interface that can be set up to alter the state of a device connected to the power outlet interface upon receipt of a signal (abstract and col1 12-21). Adding a power outlet interface to the alert

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system of Cavallero and Landais would allow users to better recognize the alerts (audible, visual and haptic) when an emergency condition has arisen. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Cavallero and Landais according to the teachings of Hartman to modify the alert system to comprise a power receptacle interface having at least one outlet that can be configured to change states.

12. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cavallero in view of Miller (US Patent 3,884,133).

Regarding claim 44, Cavallero disclose all of the claimed limitations except for the claimed system further comprising a plurality of zones within the structure, each zone having an interior, an airborne element sensor, a first valve, and a second valve, the conduit system being coupled to the interior of each zone, wherein each zone's first valve is interposed between the zone's interior and the zone's second valve, each zone's second valve being interposed between the first valve and the exhaust apparatus. Miller discloses *Fire Control System For Multi-Zone Buildings* that teaches a multi-zone building having smoke removal means in each zone for removing the presence of hazardous airborne particles from each zone (col5 5-41). Modifying the device of Cavallero to be able to be used in multiple locations in a single structure would allow a more efficient use of the system by drawing the hazardous airborne particles out of zones where it is located and not from clean zones where there are no hazardous

airborne particles. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Cavallero according to the teachings of Miller to system further comprise a plurality of zones within the structure, each zone having an interior, an airborne element sensor, a first valve, and a second valve, the conduit system being coupled to the interior of each zone, wherein each zone's first valve is interposed between the zone's interior and the zone's second valve, each zone's second valve being interposed between the first valve and the exhaust apparatus.

Miller still does not specifically disclose the claimed programmable control system in communication with the airborne element sensors, the second valves, and the airborne element evacuation system, wherein detection of a predetermined airborne element within one of the plurality of zones, causes the control system to actuate that zone's second valve causing that zone's second valve to open allowing at least a portion of the airborne element to be removed from that zone via the conduit system, and the control system causing the remaining zones' second valves to close sealing off the remaining zones' interiors from the conduit system. Miller teaches a central programmable control that is connected to the detectors in each zone that is operable to receive signals from each detector and open and close the correct zone dampers (valves) in order to remove the hazardous airborne particles (col4 47-54 and col5 5-41). Adding a central control to the system of Cavallero would help to control the actuation of the multiple different valves and to determine what to do when a particular sensor is triggered. Therefore it would have been obvious to one of ordinary skill in the art at the

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time of the invention to modify the device disclosed by Cavallero according to the teachings of Miller to include a programmable control system in communication with the airborne element sensors, the second valves, and the airborne element evacuation system, wherein detection of a predetermined airborne element within one of the plurality of zones, causes the control system to actuate that zone's second valve causing that zone's second valve to open allowing at least a portion of the airborne element to be removed from that zone via the conduit system, and the control system causing the remaining zones' second valves to close sealing off the remaining zones' interiors from the conduit system.

13. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cavallero in view of Miller and further in view of Fuss et al. (Fuss; US Patent 6,769,250).

Regarding claim 45, Cavallero and Miller disclose all of the claimed limitations except for the claimed plurality of second valves, the plurality of airborne element sensors, the exhaust apparatus, and the control system communicate via an AS-I compliant communication bus. Fuss discloses *Fluidic System With A Safety Function* that teaches the communication of several different devices over a common network using AS-I compliant communications (col6 9-15). Using an AS-I compliant communications bus to connect the components of Cavallero and Miller would be better for the system because it would operate on a commonly known interfac. Therefore it

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would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Cavaller and Miller according to the teachings of Fuss to make the plurality of second valves, the plurality of airborne element sensors, the exhaust apparatus, and the control system communicate via an AS-I compliant communication bus.

Response to Arguments

14. Applicant's arguments with respect to claims 29-48 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hansen, *Ventilation System* USP 6,102,793

Daoutis et al. *Smoke Extraction System* USP 6,776,708

Lord, *Remote Control And Secure Access For Personal Computers* USP
5,198,806

Bachinski et al. *Detection And Air Evacuation System* USP 6,774,802

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

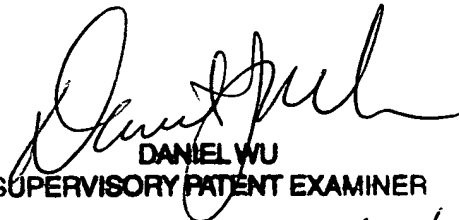
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Travis R Hunnings whose telephone number is (571) 272-3118. The examiner can normally be reached on 8:00 am - 5:00 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel J Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TRH


DANIEL WU
SUPERVISORY PATENT EXAMINER
6/02/05